December 10, 2007

Honorable Alan Lloyd, Chair
Honorable Bob Epstein, Vice-Chair
c/o Steve Church
Economic and Technology Advancement Advisory Committee
California Air Resources Board
1001 I Street
Sacramento, CA 95812

RE: CEERT Comments ETAAC Report Discussion DRAFT

Dear Drs. Lloyd and Epstein –

Thank you for this opportunity to submit comments from the Center for Energy Efficiency and Renewable Technologies (CEERT) on the *Economic and Technology Advancements for California Climate Solutions* Discussion DRAFT, released November 15, 2007.

We applaud the committee's coverage of many innovative technologies and policy ideas, particularly in such a short timeframe. CEERT was active in the drafting and discussions of the electricity sector portion of the report, and are supportive of most of the recommendations contained in that section, particularly as they relate to renewable energy technologies. We also provided input into the Global Warming Action Committee's (GWAC) comments on the electricity and agricultural sectors, presented at the November 29th workshop at University of California, Merced. In this letter, we offer some additional comments on the Discussion DRAFT.

Comments on the Report in General

Need for Interagency and Intergovernmental Cooperation and Coordination

At the November 29th workshop at the University of California, Merced, it was suggested that the State Auditor General conduct an evaluation of existing state and local policies and processes that hinders deployment of low or zero-carbon technology. CEERT supports this recommendation and believes that such an analysis could provide the basis necessary to support the interagency and intergovernmental coordination that the draft report discusses on pages 1-6 and 1-7.

CEERT encourages the committee to consider the evaluation of electricity, natural gas, and transportation fuels policies and recommendations contained the 2007 Integrated Energy Policy Report (IEPR), released by the California Energy Commission in November 2007.[1]

[1] http://www.energy.ca.gov/2007publications/CEC-100-2007-008/CEC-100-2007-008-CTF.PDF.

Getting to 2050

The report itself lacks comprehensive vision for what is needed for each sector to achieve 2020 goals and the 2050 goals in the Governor's Executive Order. While a master planning effort may not be the best role for the ETAAC committee, and is best reserved for the CARB's Scoping Plan, it would be worthwhile for an open, public stakeholder process to continue as the Scoping Plan is developed, to advise the CARB on policy and development opportunities for new and existing technology.

Comments on the Financial Sector

Disproportionate Focus on Technology R&D

The argument that significant investments in new technology not currently on the market will be needed to meet AB 32 goals in 2020, is stated many times throughout the report, and particularly in the Financial Sector section. For example, on page 2-1, "*(e)xisting state financial incentives and grants are unlikely to be sufficient to spur the needed innovation in GHG reduction technologies to comply with AB 32.*"

Research and development investments certainly have an important role in developing the next generation of new technology. It is, however, misleading if not incorrect to insinuate that existing technology in insufficient to achieve 2020 targets. Substantial barriers exist to the deployment of existing renewable energy technologies, as discussed in the Electricity Sector section and Appendix IV, some of which are economic in nature. CEERT recommends that the committee recognize and discuss the role that the financial sector, and financial programs and policies, can play in supporting existing technology as well as new innovations in emerging technology.

Comments on the Transportation Sector

CEERT is in strong agreement with the statement in the Transportation segment of the report that it is, "...important to design mobile source GHG emission reduction policies that avoid re-distributions of emissions that negatively impact poor and minority communities that already bear a disproportionate level of environmental risk".

CEERT appreciates the broad suite of policy options that the ETAAC has recommended in this section of the report. The exploitation of low carbon fuels has become a key policy instrument for the state and the ETAAC highlights the important point that the state should encourage the development of technologies capable of producing fuels - like cellulosic ethanol - with the greatest potential to reduce the carbon footprint of transportation fuels.

Besides fuels like cellulosic ethanol that can be produced biochemically, the next generation of fuels with the greatest potential to produce the lowest GHG fuels are likely to employ thermochemical technologies (ie biomass-to-liquids or BTL approaches). In pursuing such approaches the state should ensure that the thermochemical processing facilities do not

contribute to the generation of new hotspots for criteria pollutant and other emissions that could degrade local air quality. The state should establish an arm's length third-party organization, much like the Underwriters Laboratories, to do research, development, demonstration, and certification of these technologies so that they can be developed and tested using in-state feedstocks and to ensure that they meet the state's strict air emissions standards. Such an approach may also prove important in addressing a deep distrust of thermochemical technologies that exists amongst key stakeholder groups in the state.

The ETAAC recommends incentivizing fleet procurements of low GHG vehicles and ZEVs (L. Low GHG Fleet Standards and Procurement Policies). Traditionally the use of this approach has been to require public fleets to adopt these types of procurement policies. We would like to suggest that, besides the traditional approaches of targeting government and corporate fleets, incentives could be directed towards car-share services, and also - because of their generally high mileage - possibly vehicle rental fleets.

Comments on the Industrial Sector

Rebates for Load Reduction, AND Improve Policies for Combined Heat and Power Plants

CEERT fully supports the recommendations in this section to: 1) expand load reduction rebate programs to include non-generation technologies, 2) remove barriers for deployment of CHP to exempt CHP from departing load charges, 3) create new CHP-friendly tariffs to allow systems to be sized larger than what is required to fulfill on-site electric load, and 4) provide utilities incentives to invest in CHP. These policy changes are very important for scaling up overall CHP DG deployment. CEERT would further add this list of recommendations that the eligible system size for qualifying fuel cell systems in the Self-Generation Incentive Program (SGIP) be increased from its current level of one megawatt and that overall funding for the program be increased. We further note that the committee may wish to consider recommending utility investment in CHP DG focused in regions with transmission constraints, such as San Diego and San Francisco, as well as consider the recommendations in the CEC's 2007 IEPR.

Comments on the Electricity Sector

CEERT was active in crafting the electricity sector's recommendations on renewable energy technologies, and is generally supportive of its recommendations, particularly in favor of establishing competitive renewable energy zones and coordinated siting and transmission development, as critical to meeting AB 32 targets. We also support the list of recommendations in Appendix IV for removal of barriers to renewable technologies. Following are several comments on that section for the committee's consideration:

Unifying Standards for Climate-Related Programs

The report notes that individual programs have benefits in supporting and furthering technological innovation for the discrete sets of technologies that they support. We agree with this statement, and add that the benefits of separate requirements for development of groups of technologies are beneficial because of the different roles those technologies play in overall

electric system planning. For example, demand response, energy efficiency (particularly such programs as HVAC replacement programs) and solar programs have a particular value for shaving peak energy demand, when CO2 and NOx emissions are greatest, and planning for those resources should be targeted in that space. The current Renewable Portfolio Standard needs reform, as discussed later in the report. However, a requirement to continually increase renewable development in California law and policy is important to ensure transformation of energy generation procurement and overall supply.

Long-Term Energy Planning for GHG Reduction Targets

Given the substantial changes that will need to be made to our electric system to meet necessary greenhouse gas reductions, we believe that this report should contain the recommendation that the electric sector be required to plan for GHG reduction targets for 2020 requirements and eventually 2050 targets. The long-term goal of 80% reductions in GHG emissions below 1990 levels by 2050 ensures that carbon-constrained energy procurement will be the focus well into the future.

Specifically, plans should reflect maximization of peak load reducing resources to minimize the need for peaking power, aggressive energy efficiency and deployment of ultra-clean distributed generation, steady increase in renewable energy development, and steady decrease in reliance on fossil resources. This planning effort be focused more on energy and associated CO2e emissions, than on capacity as is currently the case, as emissions are a function of energy generation. The 2020 resource plans should only be based on currently available technology and that which can be sited in California under existing law. To calculate the potential carbon emissions reductions available from building supply around energy resources, the relevant state agency, either the CEC or the CARB, could invest in economic research and modeling and demonstration projects to establish the applicability and scope of such a new approach.

It is worth noting that the California Public Utilities Commission released a Proposed Decision on November 20, 2007, that would require the state's investor-owned utilities to design their long-term procurement plans to be based on: achievement of greenhouse gas reduction targets, the loading order for electricity resources, and the role of different resources in achieving GHG reductions.

Comments on the Agricultural Sector

CEERT would like to offer a caution on the discussion regarding the use of dairy digesters. We appreciate that both the cost and difficulty of gas cleanup poses a challenge for the use of gensets powered from digester biogas/biomethane. In seeking to help achieve AB32 goals through the use of dairy digesters, we cannot support any weakening of regulations that would allow for avoiding the complete cleanup of the biogas for use in digester gensets, thereby leading to emissions above current air emissions standards. It should be noted that part of the challenge that can contribute to overall cost and equipment performance also lies in the fact that inadequate cleanup can result in corrosion of the genset and contamination of the after treatment components by sulfur compounds in the combusted biogas; leading to reduced durability of the genset.

One way to address the cost issue is to modify the current tariff structure. The farm operator can thereby be more appropriately compensated for any excess power production sold back to the grid. This should thus make the economics of addressing the on-farm environmental issues associated with the handling of dairy manure, and the use of digesters to generate electricity more attractive. Ideally the use of ultraclean DG sources such as fuel cells should also be further incentivized - where appropriate - for those farms that cannot take advantage of programs such as those that exist with PG&E's pipeline program.

The ETAAC discusses the concept of employing cross media coordination in the planning and permitting of on-farm projects such as dairy digesters. The intent here is to help expedite projects that can reduce farm GHG emissions. CEERT agrees that this could realize some benefits especially if a coordinated permitting process works with the rationale that the farm is a "farm system." On-farm processes are intimately interconnected in how they affect the air, land and water, when trying to manage nitrogen for example, and should employ holistic approaches when used to mitigate these affects even when trying to reduce GHG emissions from the farm. However, CEERT again cautions that such approaches should not be used in order to establish any "net" benefits by trading-off the effects of various farm pollutants against each other. Such approaches are precluded by federal (if not state) environmental laws. The Federal Clean Air Act does not allow trade-offs between the effects of individual criteria pollutants, for example.

Thank you for considering these comments. We look forward to our continuing work with the committee and the ARB on implementation of AB 32, and beyond to 2050.

Sincerely,

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